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CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

DIVISION OF BIOLOGY

October 6, 1960

Dr. Arthur Kornberg
Department of Biochemistry
Stanford University Medical School
Palo Alto, California

Dear Arthur:

The samples and your letter arrived today and we will carry out the biological assay experiments this week-end. I will let you know what we find out.

I enclose a copy of the petition concerning Pauling that was circulated among the faculty here. About 100 signatures were obtained. It was sent to Senator James O. Eastland, Chairman of the Internal Security Subcommittee of the Senate Judiciary Committee.

Concerning molecular models, the situation is complex. As you know, molds for atoms were made here and a fair number of atoms made of a slightly flexible plastic material. This is flexible enough that pyrimidine and purine rings can be readily formed. The atoms cost about $1 apiece to make so a turn of a DNA helix would cost $1000-$1500. Actually these were intended for small peptides, etc. and are not well suited for large structures, proteins or nucleic acids because of excessive weight. One has to build a supporting framework. No DNA model made of such atoms now exists although if you would like to come down for a few days we could probably round up enough atoms to make such a model.

Alan Hodge who recently came here has been experimenting with the use of these molds to make atoms out of polystyrene foam. These are much lighter, can be glued together in cases where rotation is not desired and seem to offer numerous advantages. There are still a few problems to be worked out in connection with couplings and thus far Hodge has just been making small batches by hand. I think it is possible that in a couple of months this will be far enough along to provide an excellent solution.

Meselson has a DNA model made of metal plates and spokes. It is not space-filling, but he thinks we could get some pretty good ideas about the possible glucose positions with this. It would be available if you would like to come and try with it.

The La Pine models are derived from the same atomic scale as the Caltech atoms, with a little greater magnification. They are not flexible and my understanding is that rings cause some difficulty.

I have wanted a DNA model also, but at this point I think I will wait to see how Hodge's polystyrene foam atoms develop. I really think this will be a solution. Presumably whole purine and pyrimidine rings could be cast at once.

If you or any of your group would like to come and use the models or atoms available here we would be very glad to have you.

With best regards,

Bob

R. L. Sinsheimer
Professor of Biophysics

RLS sc

Enclosure